Powerful Remote Surveillance

Distance makes no difference

To Our Valuable Customers,

Thank you for choosing this product. You'll be amazed by those useful functions this product provides, especially for the powerful mobile surveillance support.

Remote access via different platforms is widely supported:

a) **For mobile platforms**, iPhone®, BlackBerry®, Nokia® Symbian®, Windows® Mobile & Android™ are available with our self-developed and free program, *EagleEyes*, installed.

EagleEyes

b) **For web browsers,** Internet Explorer®, Mozilla® Firefox®, Safari®, Google Chrome™ and Opera are supported.

c) **Apple's media player**, QuickTime®, is also one tool you can use.

To monitor and control multiple network devices, you can also install our free CMS software provided within the CD manual.

To know more about our mobile phone program, "EagleEyes", and where to download, please visit:
http://www.eagleeyescctv.com

To know more about feature applications, please visit:
www.eagleeyescctv.com/video

To know what's new for our products, please visit:
www.eagleeyescctv.com/facebook

To seek for technical support, please contact:
support@eagleeyescctv.com

To give us your precious suggestions and comments, please contact:
marketing@eagleeyescctv.com

PTZ NETWORK CAMERA SERIES

USER MANUAL

Please read instructions thoroughly before operation and retain it for future ceference.

IMPORTANT SAFEGUARD

All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly "lead-free" and without the hazardous substances cited in the directive.

The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste. Contact your local dealer for procedures for recycling this equipment.

Disclaimer

We reserve the right to revise or remove any content in this manual at any time. We do not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of this manual. The content of this manual is subject to change without notice.

Grounding

This is a Safety Class 1 Product (provided with a protective earthing ground incorporated in the power cord). The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. Any interruption of the protective conductor inside or outside of the instrument is likely to make the instrument dangerous. Intentional interruption is prohibited.

Water & Moisture

Do not expose this product to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the product.

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This product contains codes which are developed by Third-Party-Companies and which are subject to the GNU General Public License ("GPL") or the GNU Lesser Public License ("LGPL").

The GPL Code used in this product is released without warranty and is subject to the copyright of the corresponding author.

Further source codes which are subject to the GPL-licenses are available upon request.

We are pleased to provide our modifications to the Linux Kernel, as well as a few new commands, and some tools to get you into the code. The codes are provided on the FTP site, and please download them from the following site or you can refer to your distributor:

http://download.dvrtw.com.tw/GPL/076D_Series/arm-linux-2.6.tar.gz

TABLE OF CONTENTS

1. OVERVIEW

1.1 Product Features

- Powerful Remote Surveillance on Multiple Mobile Platforms
    - -- For mobile device platforms, iPad®, iPod®, iPhone®, BlackBerry®, Nokia® Symbian, Windows® Mobile & Android™ (with their built-in web browsers or EagleEyes)
    - -- For web browsers, Internet Explorer®, Mozilla Firefox®, Safari®, Google Chrome™ and Opera
    - -- For operating systems, Windows & Mac
    - -- For multiple device control, our CMS software, Video Viewer, is provided for free
- Free CMS software with E-Map for multiple devices control & surveillance
- Hot Point support to quickly move the camera to the specified point remotely
- Low-latency video streaming with H.264 compression format
- Advanced Auto Tracking accuracy to follow moving objects
- Rigid & high-speed pan / tilt mechanism with two-million rotation test passed for longer operating lifetime
- Up to 16 preset points & four sequence groups, and Auto Scan
- Excellent outdoor ID design with cable management
- Motion detection and event notification functions
- (AVN284V Only) ONVIF standard supported to simplify system integration
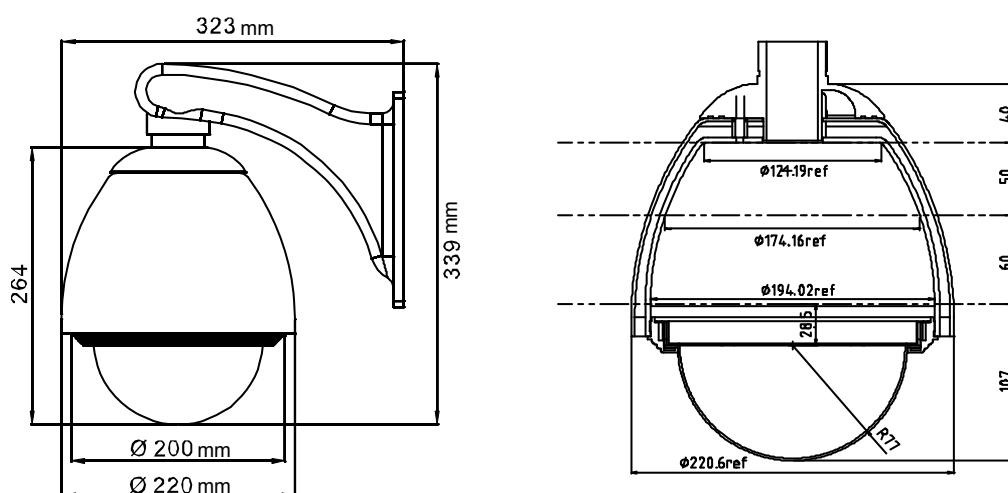
1.2 Package Content

◎ **In the camera package:**

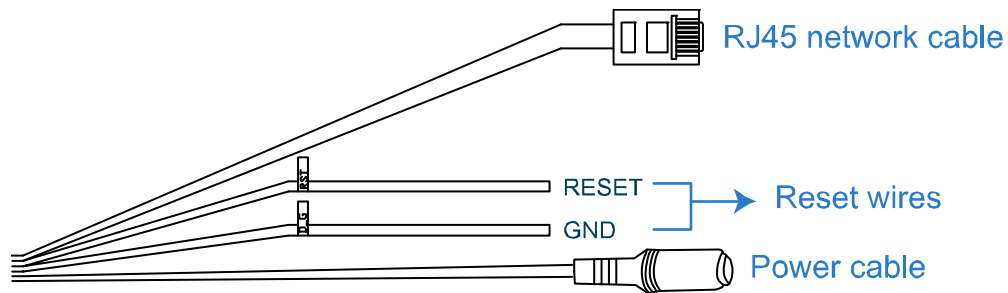|	
☐ camera module	☐ Quick Start
☐ Power & network cable	☐ RJ45 cable extender adapter
☐ CD-ROM disc (including user manuals & CMS software "Video Viewer")	☐ Accessory Pack

◎ **In the bracket package:**

☐ Housing	☐ Bracket
☐ Dome Cover	☐ Accessory pack

1.3 Dimensions

1.4 Cable Overview

CABLE	DESCRIPTION
RJ45 network cable	Connect it to the supplied RJ45 cable extender adapter for cable extension, and prepare another RJ45 network cable with suitable length for your connection.
Reset wires	Remove the insulating coating of these two wires, and twist them together to reset default. This will reset all parameters, including the IP address to factory default settings. **Note:** Disconnect power before twisting these two wires together, and connect to power again for reset default.
Power cable	Connect to DC12V power supply.

2. BEFORE USING YOUR NETWORK CAMERA

Before using the network camera, make sure:

1) You have installed the supplied CMS software, "Video Viewer".
2) You have configured the network settings, and the network connection is fine.

If not, please refer to your the installation guide.

This network camera can be accessed via our supplied CMS software "Video Viewer", or the web browser "Microsoft Internet Explorer" or "Mozilla Firefox" depending on different using situations.

■ To check or configure up to 16 surveillance devices simultaneously with the record function, please use "Video Viewer".
For details about using Video Viewer, please refer to "3. ACCESSING THE CAMERA VIA VIDEO VIEWER" at page 4.

■ To check or configure this network camera only, it's recommended to use a web browser, such as "Microsoft Internet Explorer" or "Mozilla Firefox".
For details about using the web browser, please refer to "4. CAMERA CONFIGURATIONS VIA YOUR WEB BROWSER" at page 12.

3. ACCESSING THE CAMERA VIA VIDEO VIEWER

3.1 Accessing the camera

Step1: Double-click " 📷 " on your PC desktop to open Video Viewer. By defaults, the "Address Book" panel will be displayed on the right side of the control panel.

Step2: Click " 🗼 " to select the IP address of the camera you intend to connect, and double-click it.

Step3: The live view is displayed in the Video Viewer.

3.2 Control panel overview

Two control panels are available and can be switched depending on your using habit.

3.2.1 Simplified Version (Default)

3.2.2 Full Function Version

- 180° Counterclockwise Image Rotation
- Snapshot
- Infomation

Event Notification & Quick Checklist

- Close Program
- Simplified Display Switch
- Minimize
- Version

- Setting
- PTZ control
- Available Disk Capacity

- Close All Display Views
- Close Current View
- Original Size
- Full Screen

- Display View: 1-Cut
- Display View: 4-Cut
- Display View: 6-Cut
- Display View: 9-Cut
- Display View: 13-Cut
- Display View: 16-Cut

- E-Map
- Record
- Snapshot
- Miscellaneous Control
- Log

3.2.3 Main Button Overview

Button		Function	Description		
Simplified	Full Function				
		Address Book	Click to show the predefined IP address(es). You can add, remove or search the IP address to log in the DVR remotely.		
		Miscellaneous Control		Remote Config	Click to go to the detailed system configuration.
				Record Setting	Click to go to the detailed record setting. For details, please refer to "3.3.1 Record" at page 6.
				Custom Setting	Click to choose the language of this program, or set the password when activating this program. The changes will take effect when this program is closed and executed again.
		Log	Click to view all event and recording logs, search the desired log(s) by date, or playback the recording of the selected log.		
/	/	Record / Record Stop	Click to start / stop the manual recording. The record button will be disabled when the reserved disk capacity set in "Record Setting" is larger than the current disk capacity. For details, please refer to "3.3.1 Record" at page 6.		
		Snapshot	Click to take a snapshot of the current view. The snapshot will be saved in the path you specified in "Record Setting".		
		Information	Click to show the current network connection details.		
		PTZ Control	Click to enter the PTZ control panel. For details, please refer to "3.3.5 PTZ Control' at page 11.		

3.3 Frequently-used functions

3.3.1 Record

To record remotely, click " " or " " → " " to go to the "Record Setting" page.

In the "Record Setting" page, you can set the following items:

‧ Record type
‧ Pre- / post-event record
‧ Record time setting
‧ Record path

Note: The record function will be disabled when the reserved disk capacity in "Reserved(MB)" is larger than the current disk capacity in "Free(MB)".

When "Manual" is checked, click " " or " " on the main control panel to start the manual recording immediately, and the recordings will be saved in the location specified in "Record Path".

When "Motion" and / or "Alarm" are checked, the recording function will be enabled for any motion or alarm event, and the recordings will be saved in the location specified in "Record Path".

3.3.2 Playback

To play a recording, click " " or " ", and select the "Record" tab. A list of all the recordings will be shown by defaults, and you can also sort out the logs you want to speed up the search time.
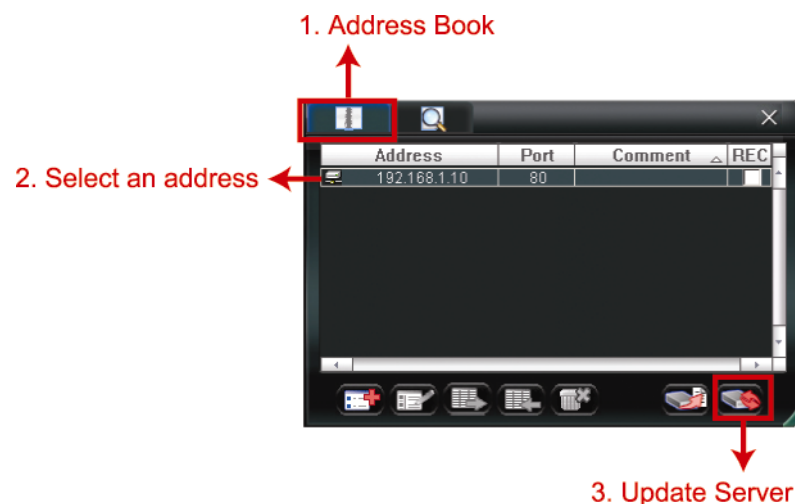
3.3.3 Firmware Upgrade

This function is used when users need to upgrade the network camera for function scalability.

Note: Before using this function, make sure you have the correct upgrade files provided by your installer or distributor.

Step1: Click "![icon]", and select the IP address of your network camera in the address book.

Step2: Click "![icon]" to show the upgrade page, "Update Server".

1. Address Book

2. Select an address

Address	Port	Comment	REC
192.168.1.10	80		

3. Update Server

Step3: Click "Add" to browse to the upgrade files.
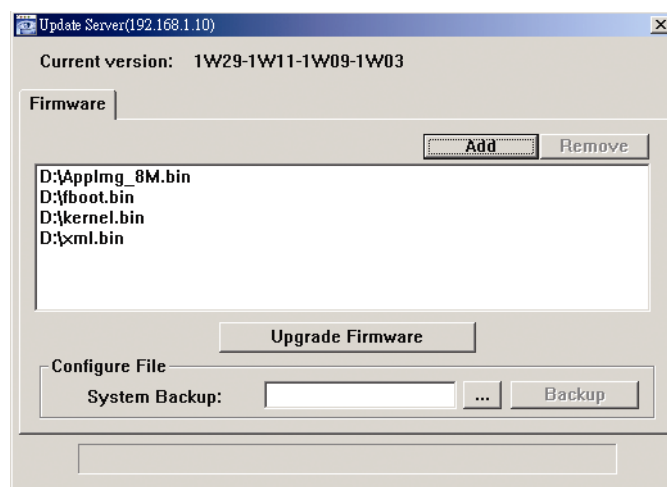
Step3: Back up all your configurations if necessary.

Firmware upgrade might reset all configurations to default. To keep all your configurations, select "System Backup" to back up all your configurations and a "system.bin" file will be generated.

Note: To restore all your configurations after system upgrade, upgrade "system.bin".

Step4: Click "Upgrade Firmware" to start firmware upgrade.

Note: It takes a few minutes to finish the upgrade process. Do not disconnect the power during firmware upgrade, or the upgrade may be failed. The camera will reboot after the upgrade.

Step5: Select the IP address of the camera and click "![icon]" again to check if the firmware is upgraded.

3.3.4 E-Map

Video Viewer is also a Central Management System (CMS) software, which allows network device control & management for up to 16 devices simultaneously.

Note: Before using this function, make sure Video Viewer is connected to all the devices (up to 16) you want to monitor.

E-Map is **ONLY** available when the control panel is switch to the full function version.

How to Add an E-Map Group

STEP1: In the simplified version, click "![icon]" to switch the control panel to the full function version, and click "![icon]" to enter the E-Map page as follows.

Note: To know where the buttons are, please refer to "3.2.1 Simplified Version (Default)" at page 4, and "3.2.2 Full Function Version" at page 5.

Add Google E-MAP
Add Single E-MAP
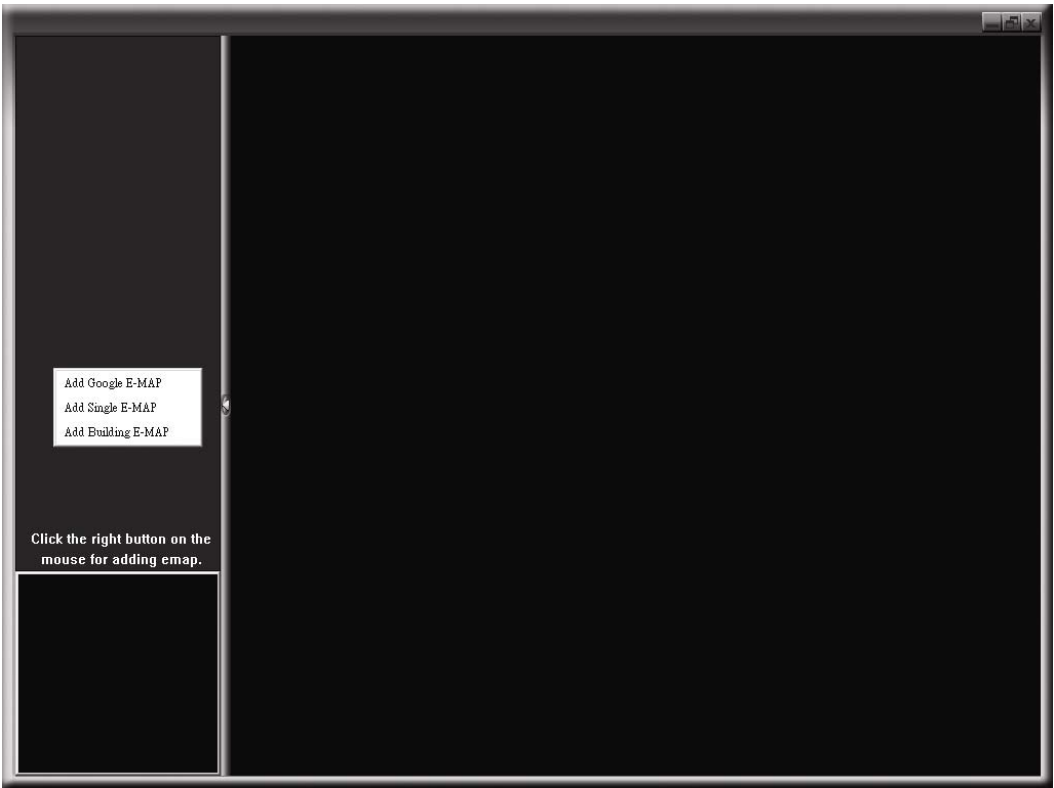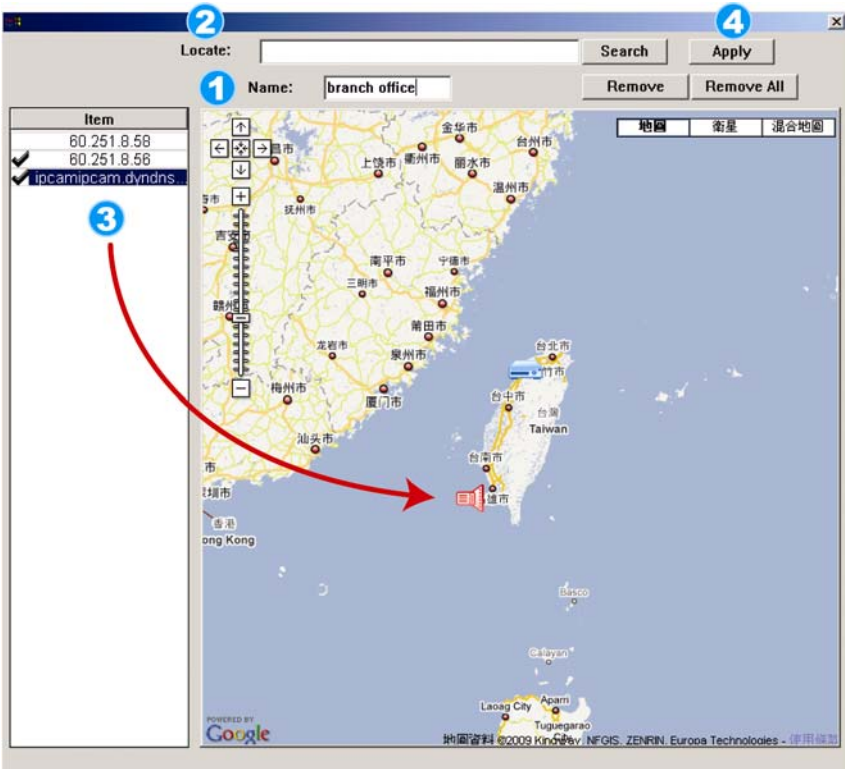Add Building E-MAP

Click the right button on the mouse for adding emap.

STEP2: Right-click to show the shortcut menu on the top-left panel, and select the E-Map group you want to add. There are three E-Map groups you can add: Google E-MAP, Single E-MAP, and Building E-MAP.

How to add a Google E-Map group:

1 Enter the name of this Google E-Map group.

2 Enter a specific address or landmark, and click "Search".
OR
Move to the map and drag to the location you want.

3 Click and drag the IP address to where it's located in the current level.

4 Click "Apply" to save and finish.
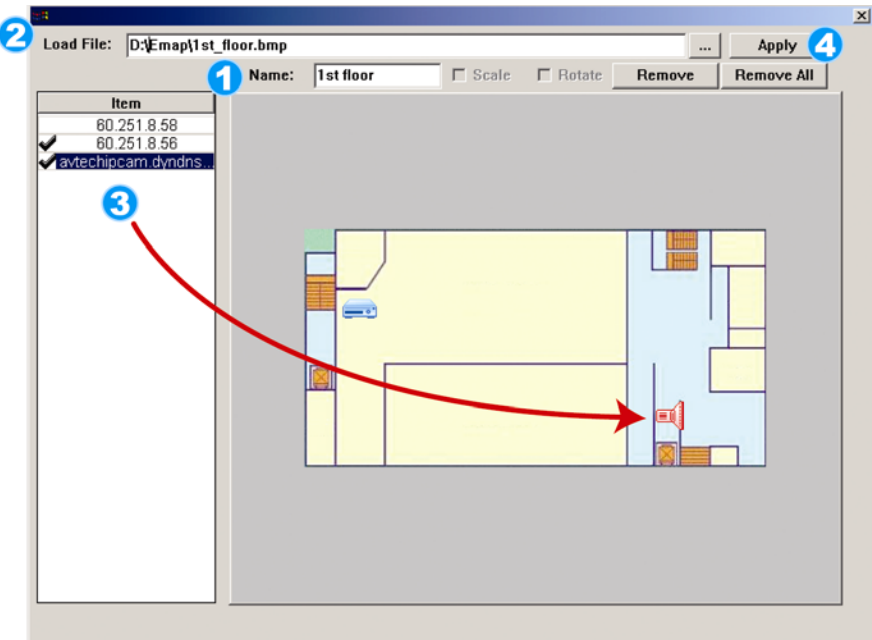
How to add a single E-Map group:

1 Enter the name of this single E-Map group.

2 Click "..." to browse the map file in BMP or JPEG.

3 Click and drag the IP address to where it's located in the current level.

4 Click "Apply" to save and finish.
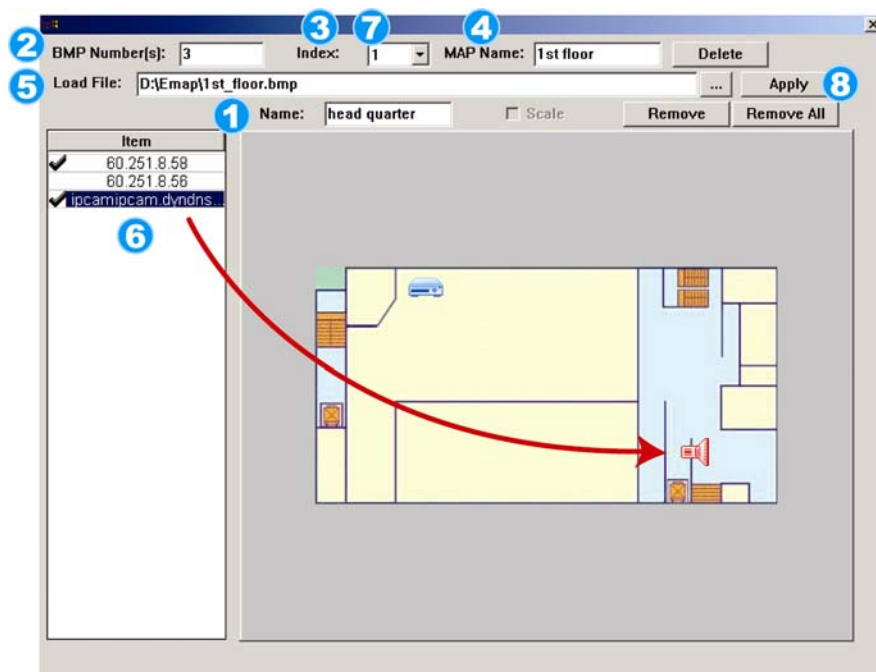
How to add a building E-Map group:

1. Enter the name of this building E-Map group.
2. Enter the total levels of this building.
3. Select the level of the building from the drop-down list.
4. Enter the name of the level.
5. Click "…" to browse the map file in BMP or JPEG.
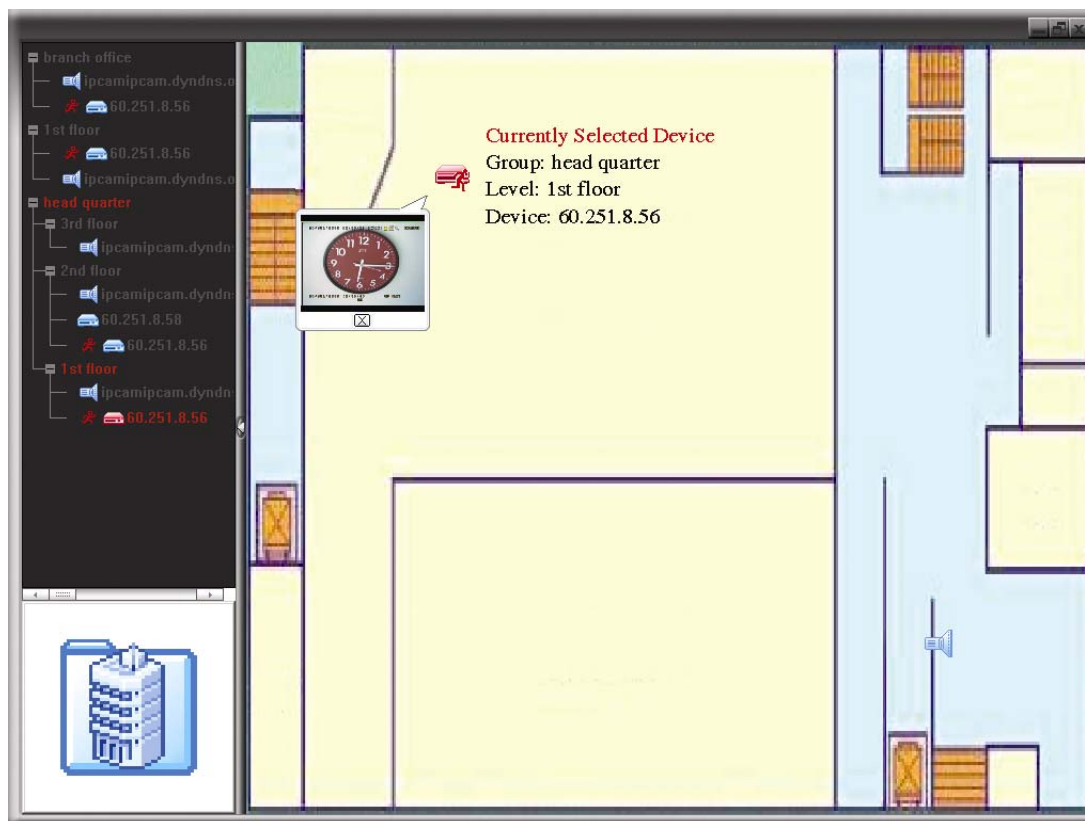6. Click and drag the IP address to where it's located in the current level.
7. Go back to STEP 3 to select other level of the building, and repeat from STEP 3 to 6 until the setup for all levels are finished.
8. Click "Apply" to save and finish.

STEP3: When the E-Map group is created, you will see the tree on the top-left panel, showing all the devices you've added to this group.

Icon	Description
	The connected device is camera. When it's selected, it will become red.
	The connected device is DVR. When it's selected, it will become red.
	For any motion or alarm event, it will appear on the screen to catch your attention. To know what's happening quickly, double-click the device icon on the E-Map to show the live view.

How to Edit / Remove an Existing E-Map Group

➢ For Google E-Map Group

Right-click on the group name to show the shortcut menu list, and select "Edit E-MAP" or "Remove E-MAP" as needed.

You can also add a single E-Map group (Add Single E-MAP) or Building E-Map group (Add Building E-MAP) into the existing Google E-Map group.
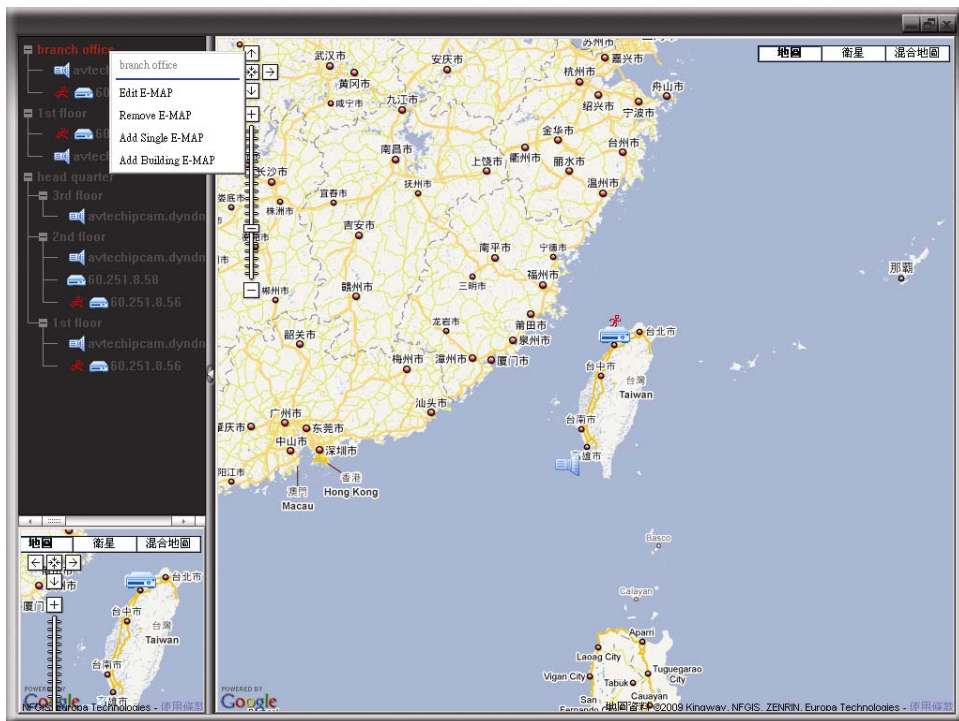
➢ For Single E-Map Group
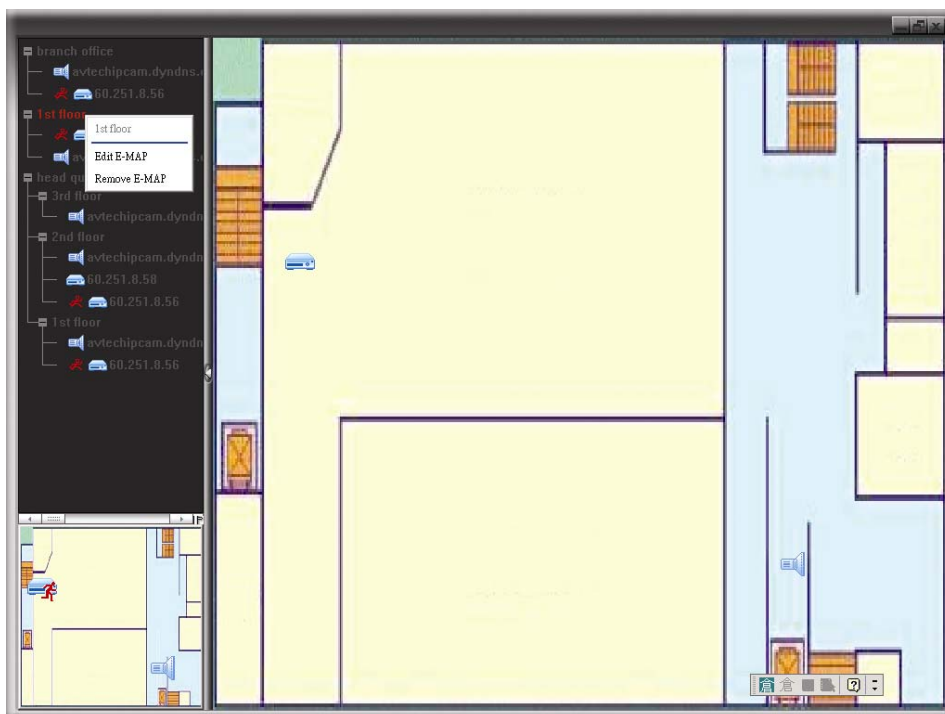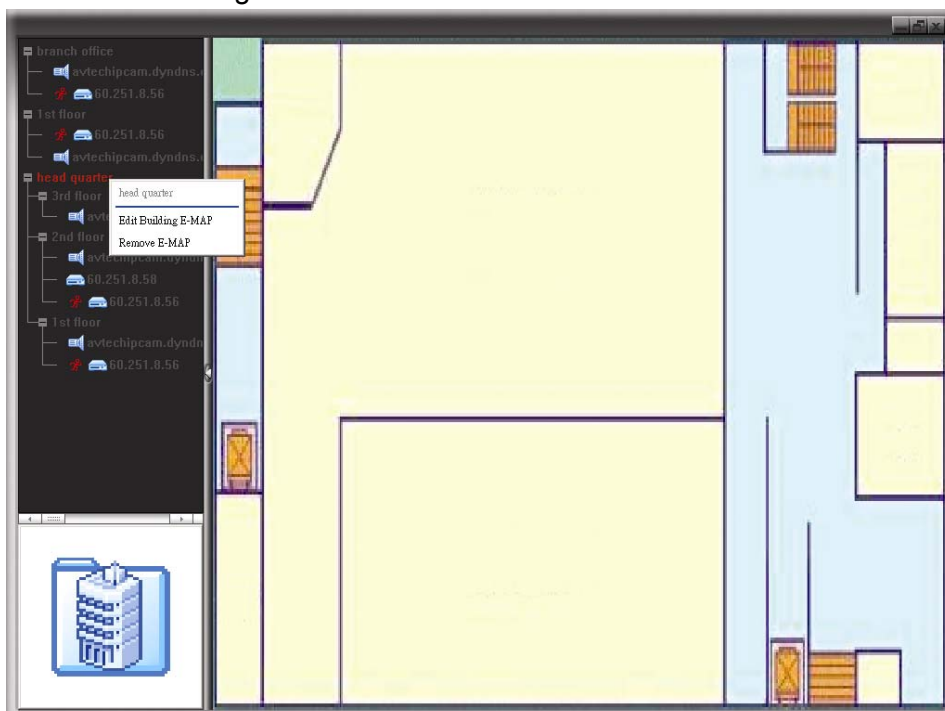
Right-click on the group name to show the shortcut menu list, and select "Edit E-MAP" or "Remove E-MAP" as needed.

➢ For Building E-Map Group

Right-click on the group name to show the shortcut menu list, and select "Edit Building E-MAP" or "Remove E-MAP" as needed.

3.3.5 PTZ Control

Click or to display the PTZ control panel as follows.

Simplified Version   **Full Function Version**

Function	Button		Description
	Simplified	Full Function	
Preset Point	--	--	Click the numbering of the preset point you want to move the PTZ camera to the selected preset point. To set preset points, please refer to "4.4.2 Preset" at page 20.
Auto Pan	AUTO	Auto	Click to activate the auto function. Before using it, you need to assign a specific function that will be enabled when "AUTO" is clicked. For details, please refer to "4.4.3 Cruise" at page 21.
Auto Tracking			Click to activate the auto tracking function. For setting details, please refer to "4.4.4 Auto Tracking" at page 22.
Zoom In / Out	/	/	Click to zoom in / out the image.
Focus Near / Far	/	/	Click to adjust the focus of the image.
Max Zoom In / Out	/	/	Click to zoom in the image to the largest / zoom out the image to its original size.
Arrow Keys	--	--	Click to move the camera lens up / up-left / down / up-right / left / down-right / right / down-left.
Turbo Step	T	T	Speed up the menu selection from 1 to 10. Note: When this function is enabled, the supported buttons will turn to blue. Ex: If the value of the turbo step is set to 5, one mouse-click will function as 5 mouse-clicks when you click the arrow keys. To use this function, you need to set it in the camera configuration page first. For details, please refer to "4.5.1 General" at page 26.
Auto Move			Click to enable the auto move function. It allows the camera to move to the direction where your cursor stays.

4. CAMERA CONFIGURATIONS VIA YOUR WEB BROWSER

Users can also access the network camera via a web browser, such as Microsoft Internet Explorer, Mozilla Firefox, Google Chrome and Safari.

Note: It's recommended to consult with your installer before changing system configurations.

Note: You need to be the supervisor to enter the system configuration page. If not, please re-log into the camera with the supervisor user level.

However, the web browser is only available for single device access. If users want to access more than two devices through one interface, it's recommended to use our supplied software, Video Viewer. For details, please refer to "3. ACCESSING THE CAMERA VIA VIDEO VIEWER" at page 4.

Before using the network camera, make sure you have configured the network settings and have the IP address, user name and password used for accessing the camera in hand. If not, please refer to the installation guide.

4.1 Accessing the camera

Step1: Open your web browser, and key in http://*ipaddress:portnum* in the URL address box.

For example, for IP address 60.121.46.236 and port No. 888, please key in "http://60.121.46.236:888" into the URL address box, and press "Enter".

Step2: In the login page, key in the user name and password, and enter the security code from the image below. Then, click "LOGIN".

Step3: The wizard is then starting analyzing your network environment, and shows your network environment.

- To continue setting the password, date & time, and network, click "Next" and follow the step-by-step instructions.
- To skip the wizard and directly access the camera live view, click "Close".
- To directly access the camera live view without starting the wizard for the login next time, check "Do not start wizard at login".
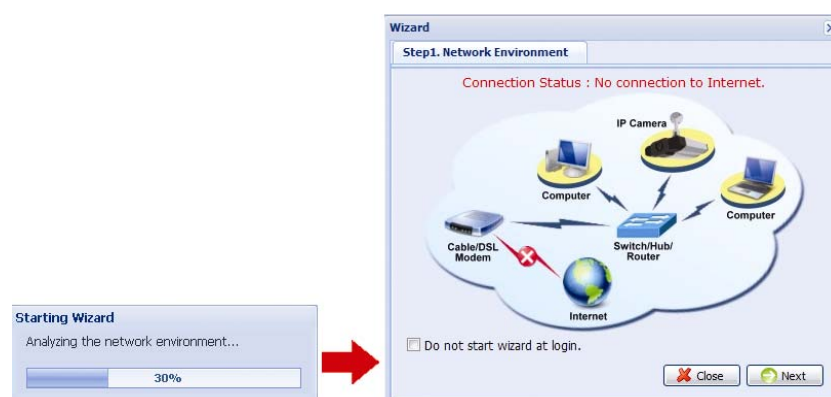
Step3: When the login is successful, you'll see the live view.

4.2 Control panel overview

4.2.1 Live View Panel

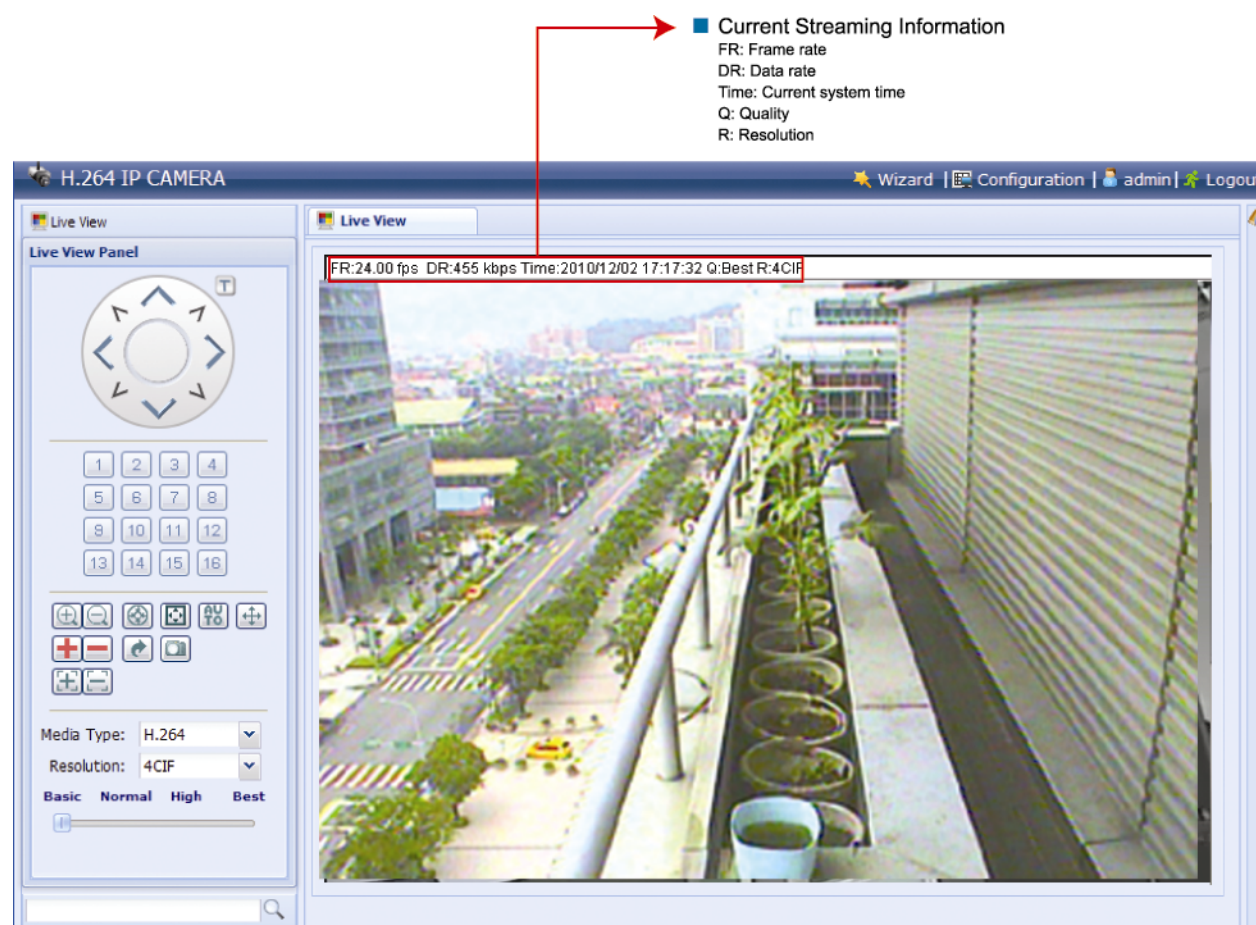| Function	Icon	User Level	Description
Arrow keys	--	Supervisor / Power User / Normal User	Click to move the camera lens up / up-left / down / up-right / left / down-right / right / down-left.
Turbo		Supervisor / Power User / Normal User	Speed up the menu selection from 1 to 10. Note: When this function is enabled, the supported buttons will turn to blue. Ex: If the value of the turbo step is set to 5, one mouse-click will function as 5 mouse-clicks when you click the arrow keys. To use this function, you need to set it in the camera configuration page first.
Preset points	--	Supervisor / Power User / Normal User	Click the numbering of the preset point you want to move the PTZ camera to the selected preset point. To set preset points, please refer to "4.4.2 Preset20" at page 錯誤! 尚未定義書籤。.
Zoom-in / out	/	Supervisor / Power User / Normal User	Click to zoom in / out the current image.
Max. Zoom-in / out	/	Supervisor / Power User / Normal User	Click to zoom in the image to the largest / zoom out the image to its original size.
Focus near / far	/	Supervisor / Power User / Normal User	Click to adjust the clearness of the video images.
Auto Tracking		Supervisor / Power User / Normal User	Click to activate the auto tracking function. For setting details, please refer to "4.4.4 Auto Tracking" at page 22.
Auto Mode		Supervisor / Power User / Normal User	Click to activate the auto function. Before using it, you need to assign a specific function that will be enabled when "AUTO" is clicked. For details, please refer to "4.4.3 Cruise" at page 21.
Auto Move		Supervisor / Power User / Normal User	Click to enable the auto move function. It allows the camera to move to the direction where your cursor stays.
Flip		Supervisor / Power User / Normal User	Click to rotate the image 180^0 counterclockwise when necessary.
Full Screen		Supervisor / Power User / Normal User	Click to display the image in full screen.
Snapshot		Supervisor / Power User / Normal User	Click to take a snapshot for the current view, and a new browser window will be opened to display the captured image.

Function	Icon	User Level	Description
Media Type	--	Supervisor / Power User / Normal User / Guest	Select the web transmission format from the drop-down list: H.264 / MPEG-4 / Motion JPEG / QuickTime For users using Mozilla Firefox, only "QuickTime" is selectable. QuickTime is Apple Inc.'s multimedia software. You need to have QuickTime installed in you operating system before selecting "QuickTime". When it is selected, you will be promoted to enter the user name and password to access the camera.
Video Resolution		Supervisor / Power User / Normal User	Select the video resolution from the drop list: 4CIF / CIF.
Video Quality	--	Supervisor / Power User / Normal User	Click & drag the slider to select the video quality: Basic / Normal / High / Best.

4.2.2 System Configuration Panel

Click "Configuration" to enter the configuration page.

Note: You need to be the supervisor to enter the system configuration page. If not, please re-log into the camera with the supervisor user level.

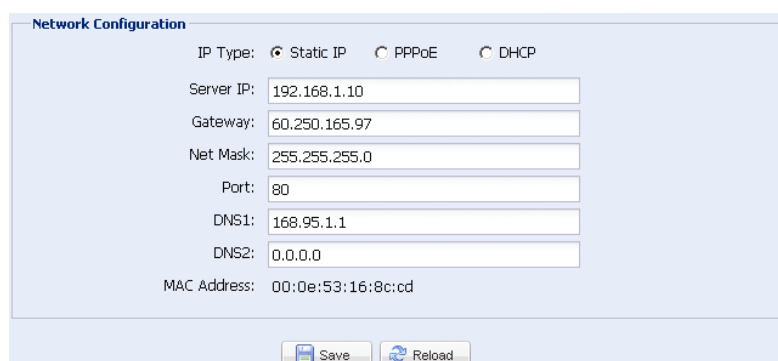The functions are categorized into three menus: Network, Camera and General.

- For details about "Network", please refer to "4.3 Network" at page 16.
- For details about "Camera", please refer to "4.4 Camera' at page 20.
- For details about "General", please refer to "4.5 General" at page 26.

Main Menu	Sub-Menu	Reference
Network	Network	Configure network settings.
	QoS	Limit the data flow for live streaming.
	DDNS	Enter DDNS information when the network type is PPPOE or DHCP.
	SNTP	Synchronize your camera time with the networked computer systems.
	FTP	Enter the FTP information for event notifications when "FTP" is chosen in "General" → "Trigger".
	Mail	Enter Email information for event notifications when "Email" is chosen in "General" → "Trigger".
	SMS	Enter text messaging information for SMS notifications when "SMS" is chosen in "General" → "Trigger".
	Filter	Choose to permit or block the IP address(es) which can access this camera.
	UPnP	*Suitable for Windows-based operating system.* 1. Allow this camera to be detected among devices within the same network area for easy and quick usage. 2. Configure port mapping.
	Bonjour	*Suitable for Apple Mac-based operating system.* Allow this camera to be detected among devices within the same network area for easy and quick usage.
Camera	System	1. Set the OSD display. 2. Set the ID and baud rate. 3. Set the pan and tilt speed.
	Preset	Set the preset points for the DPTZ function.
	Cruise	Set the cruise mode when the auto mode is enabled: Sequence or Auto Pan.
	Auto Tracking	Set the surveillance area for auto tracking, and the tracking timeout.
	Color	Adjust the color performance.
	Time	Set daylight saving time and the current time.
	Advance	Adjust the camera parameters if necessary.
General	General	1. Select the language of the web browser. 2. Check the MAC address of the camera. 3. Lock camera access after the specified time.
	Server Log	Check the system event logs.
	Online	1. Check current online user(s). 2. Set anonymous login 3. Set image code verification at login
	Account	1. Create a new user account with different access privilege. 2. Modify or delete an existing user account.
	Trigger	1. Enable / disable motion detection. 2. Set the motion detection area. 3. Select the event notification method.
	Video	Select video file size and image quality.
	Google Maps	Allow you to know where the network camera is.
	Upgrade	Check the current firmware version and upgrade.

4.3 Network

4.3.1 Network

You can set the network configuration of the network camera depending on your network type. For details, please refer to your installation guide.
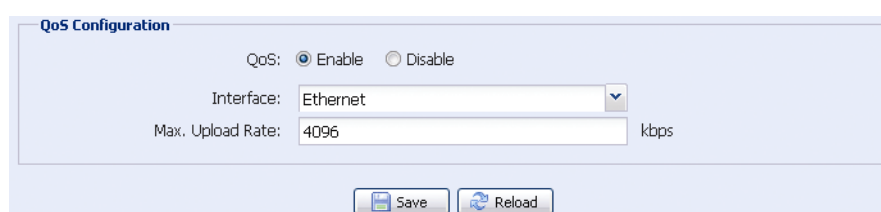

4.3.2 QoS

QoS, Quality of Service, is the ability to control the data flow for real-time streaming. This function is important if your network bandwidth is insufficient and you have other devices to share the network bandwidth.
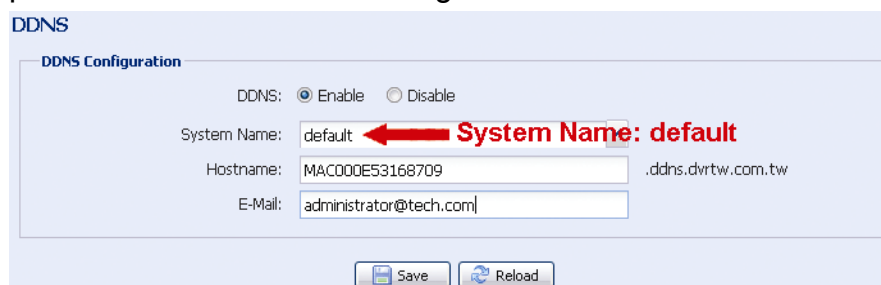
Check "QoS Enable", and set the max. upload rate from 256 to 10240 kbps.

4.3.3 DDNS
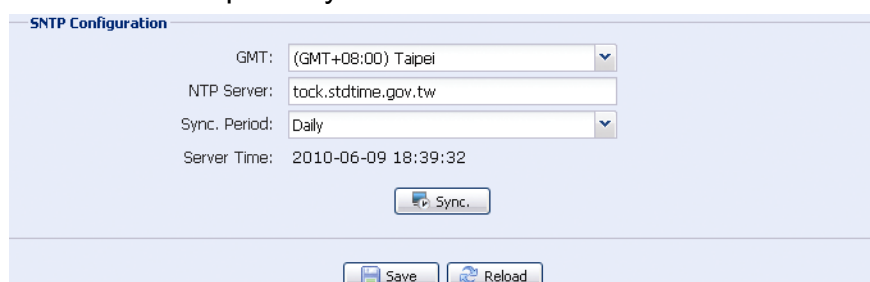
Select "On" when the selected network type in "Network" is "PPPOE" or "DHCP". For details, please refer to the installation guide.

4.3.4 SNTP

SNTP (Simple Network Time Protocol) is used to synchronize your camera time with the networked computer systems.

Function	Description
GMT	Once users choose the time zone, the network camera will adjust the local area time of the system automatically.
NTP Server	Simply use the default SNTP server (For example, tock.stdtime.gov.tw) or change to another server with which users are familiar.
Server Time	Click and the network camera will synchronize the time with the network time.

4.3.5 FTP

Enter the detailed FTP information and click "Save" to confirm. The information you set here will be applied when "FTP" is selected in "General" → "Trigger".

4.3.6 MAIL

Enter the detailed e-mail information and click "Save" to confirm. The information you set here will be applied when "Email" is selected in "General" → "Trigger".
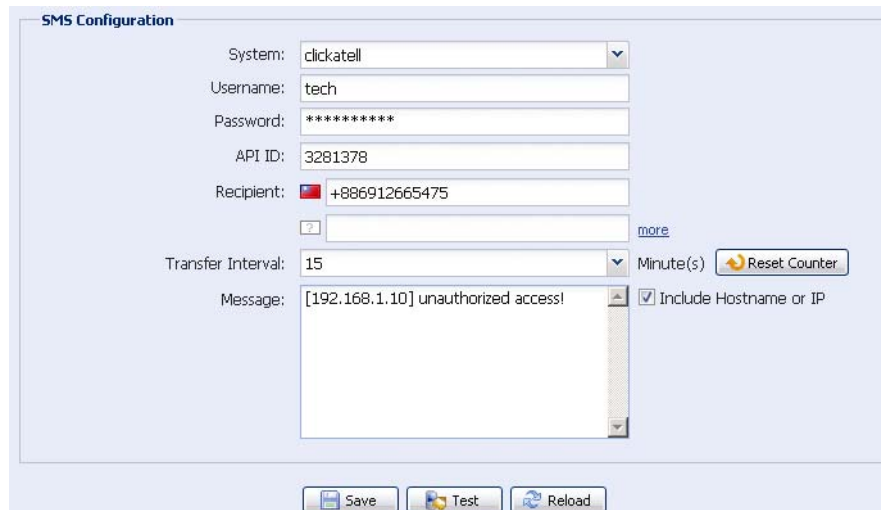
Function	Description
SMTP Server	Enter the SMTP server address provided from your e-mail system supplier.
Port	Enter the port number provided from your e-mail system supplier. If this column is left blank, the e-mail server will use port 25 to send e-mails.
Mail From	Enter the entire mail address to ensure e-mails will not be blocked by SMTP.
SSL Encryption	Select "Yes" if your e-mail server is using SSL encryption to protect your e-mail content from unauthorized access.
Verify Password	Some mail servers are required to verify the password. Please enter the "user name" and "password".
E-Mail Address List	Add the e-mail address(s) of the assigned recipient(s).
Test	When all information is entered, click "Test Mail" to try if the recipe.

4.3.7 SMS

Note: Before using this function, you need to apply an API ID from the mobile messaging company, Clickatell, and you will be charged starting from the 11th message. For details, please refer to "APPENDIX 2 API ID APPLICATION FOR SMS MESSAGING' at page 32.

Enter the detailed information needed for text messaging, and click "Save" to confirm. The information you set here will be applied when "SMS" is selected in "General" → "Trigger".

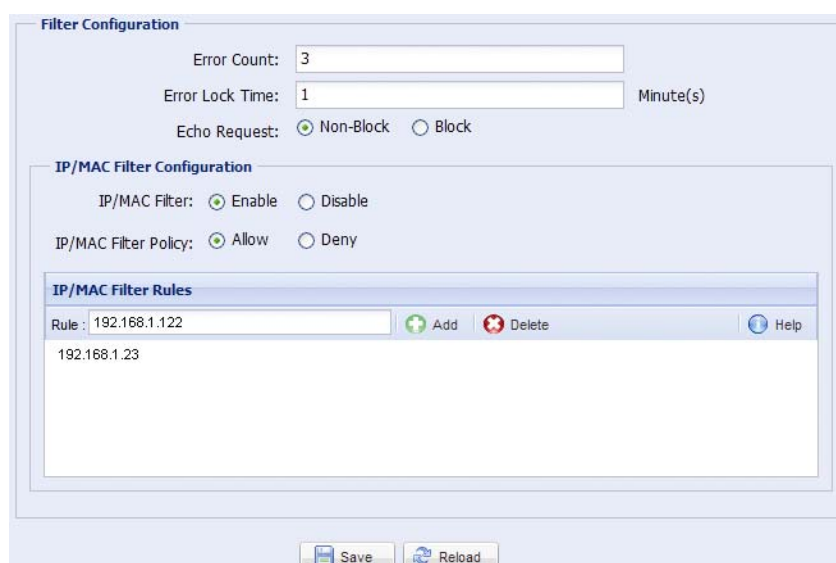| Function	Description
System	The text messaging service provider is Clickatell.
User name / Password	Enter the account user name and password you created in Clickatell.
API ID	Enter the API ID you applied from Clickatell.
Recipient	Click "Add" to enter the phone number, including the country code, to receive the text message. Five sets of phone numbers are allowed.
Transfer Interval	Set the interval time in minutes between two-message sending. The options are 0, 15, 30 & 60.
Reset Counter	Click to restart the text messaging, and the SMS will be sent after the specified time interval since you click this button.
Message	Enter the text content (up to 70 characters) you want to send with the text message.
Test SMS	To know whether your SMS setting is correct, click this button to immediately send a SMS to your phone. Note: This testing is not free and you will be charged for SMS sending base on your local rate.

4.3.8 Filter

Choose to permit or block the IP address(es) which can access this camera, and click "Save" to confirm.

Function	Description
■ **Filter Configuration**	
Error Count	Set the maximum count for login failure. When the maximum count is reached, the IP address trying to access the network camera will be locked.
Error Lock Time	Set the lock time in minutes when the maximum count of error login for an IP address is reached.
Echo Request	Select "Non-Block" to allow other users to use the ping command to detect the IP address of your network camera, or "Block" to deny the ping command request.
■ **IP/MAC Filter Configuration**	
IP/MAC Filter	Choose to enable or disable the filter function.
IP/MAC Filter Policy	If "Enable" is selected, choose whether you want to permit (Allow) or block (Deny) the IP address list below.
■ **IP/MAC Filter Rules**	
Rule	• To add an item to the IP address list, key in the IP address in "Rule", and click "Add". • To remove an existing item in the IP address list, click the item you want to remove, and click "Delete".

4.3.9 UPnP / Bonjour

"UPnP" stands for "Universal Plug and Play", which allows devices to connect seamlessly in the home and corporate environments and simplify installation of computer components, and is only suitable for Microsoft Windows-based operating system.

"Bonjour" functions the same as "UPnP", but it's only suitable for Apple Mac-based operating system.

➢ **UPnP**

➢ **Bonjour**

Check "Enable" to allow the network camera to be detected among devices within the same network area, and set the identification name of the camera in "Friendly name".

When this function is activated, the other PC within the same domain as this camera will be able to search this camera in:
➢ "Network Neighbor" with the identification name set in "Friendly name" for Windows-based PC, or
➢ " " (finder) or "Bookmark" with the identification name set in "Device Name" for Mac-based PC.

Double-click it to quickly open the web browser for camera access.

Port Mapping (Available only in UPnP)

When your device is connected to Internet via a router and you need to additionally access the router to configure port mapping, this function can eliminate the need to additionally access the router for port forwarding.

Note: Before using this function, make sure the UPnP function of your router is also enabled.

When "Port Mapping" is set to "Enable", the system will automatically assign an IP address or port number for you if no IP address or port number is entered.

Note: When the configurations are saved successfully, you'll see a message indicating the IP address and port number assigned to your device.

4.4 Camera

4.4.1 System

Set the camera OSD display.

4.4.2 Preset

Note: Before using this function, make sure the DPTZ function is enabled.

You can set new preset points (up to 16) or check existing points here.

How to set a new preset point

Step1: Click DPTZ icon.

Step2: Click to where you want to see, and you'll get a 5x zoom-in image. To slightly zoom out, draw a square from the bottom right to top left, and you'll get a 3x image. Draw the square again and you'll return to the original size.

Step3: In "Current Position", give a name to this point, and click "Add".

How to check an existing preset point

In "Available Positions", select the name of the point you want to check from the drop-down list, and click "Goto".

You will see the camera view on the right side moving to the point it's recorded.

How to delete an existing preset point

In "Available Positions", select the name of the point you want to check from the drop-down list, and click "Remove".
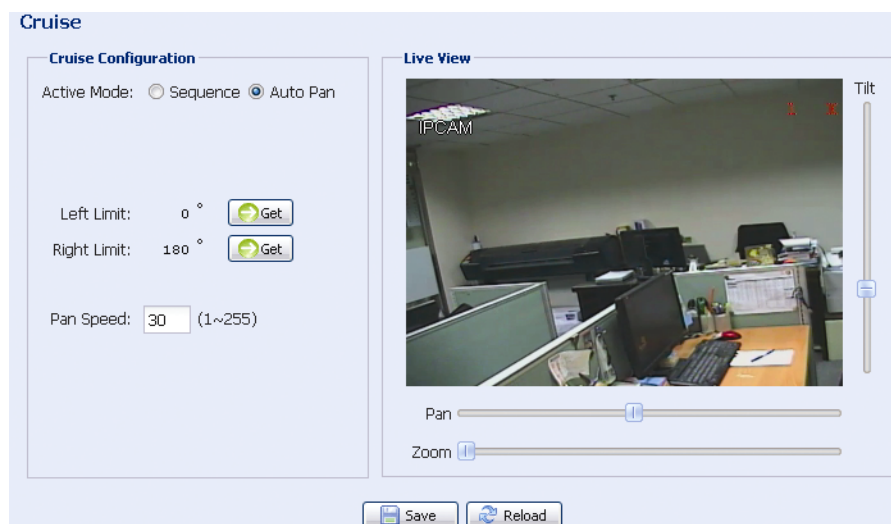
4.4.3 Cruise

Note: Before using this function, make sure you have finished setting several preset points.

Here defines how the auto mode of the camera is going to work when is selected: Sequence or Auto Pan.

Auto Pan

When "Auto Pan" is selected here and is clicked on the live view page, the camera will start panning.

Sequence

When "Sequence" is selected here and is clicked on the live view page, the camera will start patrolling each preset point defined in "Sequence".

Step1: Click "Add" to choose a preset point from the drop-down list, and select the duration to stay at this point from 1 ~ 60 minutes.

Then, click "Save" to confirm.

Step2: Click "Add" again to add more preset points. When all the points are added, click "Save" to confirm.

4.4.4 Auto Tracking

Set the surveillance area for auto tracking, and the tracking timeout.
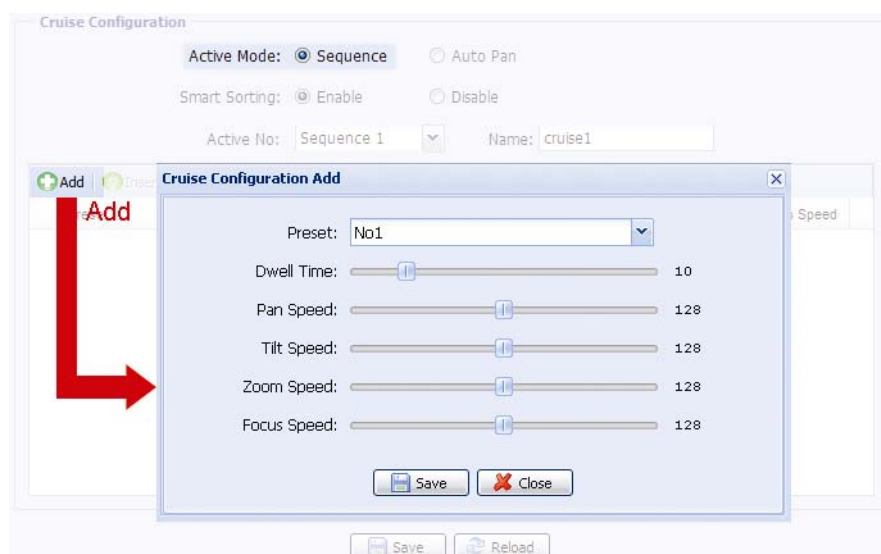
When the locked target is out of the pre-defined surveillance area or stops moving for a pre-defined period of time, the camera returns to the point it originally monitors.

Function	Description
Limit 1	When the locked target moves out of the surveillance area, the camera returns to the point it originally monitors after the preset tracking timeout. By clicking and dragging the slider, set the left end of the surveillance area from 0º ~ 360º.
Limit 2	When the locked target moves out of the surveillance area, the camera returns to the point it originally monitors after the preset tracking timeout. By clicking and dragging the slider, set the right end of the surveillance area from 0º ~ 360º.
Time	When the locked target stops moving longer than the pre-defined tracking timeout, the camera returns to the point it originally monitors after the preset tracking timeout. By clicking and dragging the slider, set pre-defined tracking timeout of the camera from 5 ~ 60 seconds, or you can choose to have no time limit (Infinite).

4.4.5 Color

Adjust the color performance from Brightness, Contract, Hue and Saturation. Click and drag the slider to preview the color change on the right side of ths page and adjust the image color.

To restore the default values, click "Back to Default".
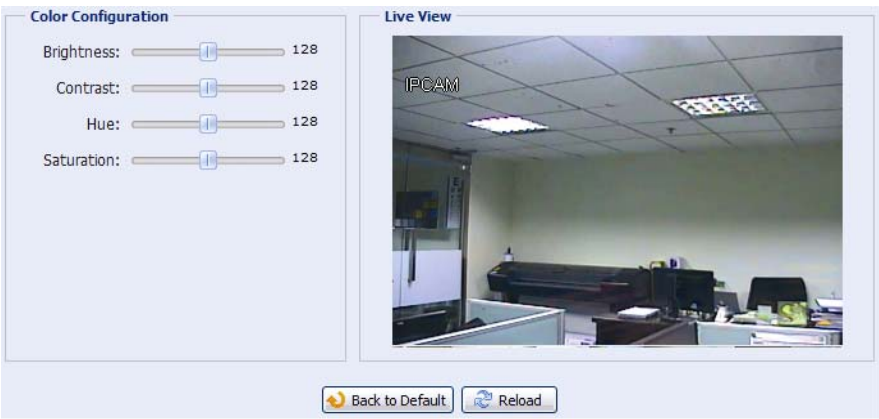
4.4.6 Time

Set daylight saving time and the current time, and click "Save" to confirm.

Function	Description
■ **Time Configuration**	
Date	Set the current date.
Time	Set the current time.
■ **Daylight Saving Time Configuration**	
Daylight Saving Time	Specify whether to use daylight saving time (Enable / Disable).
	If this function is enabled, set the time period (Start Time / End Time), and adjust the daylight saving time in hours (Adjust Time).

4.4.7 Advance

Adjust the camera parameters if necessary. You can preview the result on the right side of this page.

Item	Description
Shutter Speed	Shutter Speed is a function that can adjust the duration of the electronic shutter to produce optimum image quality. A slower shutter speed in dark conditions will help to produce a brighter image, but will produce fewer frames per second, which may cause images to be blurry during motion.
Backlight	Enabling backlight compensation makes the subject clearer if the image background is too bright, or if the subject is too dark.
White Balance	White Balance is a function that processes the viewed image to retain color balance over a color temperature range. According to different color temperature and installation place, choose different white balance mode ("Auto", "Indoor 1", "Indoor 2", "Sun" and "Cloudy"). Auto: Balance the color automatically depending on the different color temperature. Indoor 1 / Indoor 2 / Sun / Cloudy: According to different color temperature and installation place, choose different white balance mode. Note: The color temperature of the "Indoor 1" mode is about 9000K. The color temperature of the "Indoor 2" mode is about 3000K. The color temperature of the "Sun" mode is about 5500K. The color temperature of the "Cloudy" mode is about 7000K.
Auto Focus	There are three types of auto focus mode: "Always", "Moving" and "Zooming". Always: Automatically adjusts the image focus. Moving: Adjusts the image focus only when the PTZ camera is under the movement of panning/tilting. Zooming: Adjusts the image focus only when the PTZ camera is under the movement of zooming.
Sharpness	Sharpness is a function that can enhances image detail by increasing the aperture gain of the camera and sharpening the edges in the images. There are four options: "Auto", "Low", "Medium" and "High"). Auto: The camera automatically maintains a normal sharpness level. Low / Medium / High: The sharpness of the image can be set manually by choosing different sharpness level.
AGC	Auto Gain Control is a function that can adjust the amplitude of the signal input according to the light conditions. There are four options: "Low", "Medium", "High" and "Off"). Low: When the light condition is too bright, you can select "Low" for lower sensitivity. Medium: When the light condition is normal, you can select "Medium" for normal sensitivity. High: When the light condition is too dark, you can select "High" for higher sensitivity. Off: Disable the auto gain control function. P.S. The higher the sensitivity is, the more the signal noise will be.
IRIS	IRIS level is used to adjust the amount of light reaching the image sensor for best image results. By pressing and dragging the slider, you can increase the value to brighten the image or decrease the

Item	Description
	value to darken the image (50 ~ 250, default value is 162).

4.5 General

4.5.1 General

In "General", you can select the UI language to English or Chinese, and check the MAC address of your camera.

To lock camera access when it's not used after the specified time, select "5 MIN", "15 MIN" or "30 MIN" from the drop-down list of "Auto Lock Time", or select "NEVER" to disable this function.

Note: When the camera access is locked after the specified time, to resume camera access, please enter the password.

General Configuration	
Language:	English
Auto Lock Time:	15 MIN
Turbo Step:	5
MAC Address:	00:0E:53:18:BB:77

Save   Reload

4.5.2 Server Log

To quickly search the system logs you want by event type, click "Prev. Page" or "Next Page" to find the logs you want, or check the event type(s) and click "Reload" to start searching.

To clear all system event logs, click "Clear All".

Server Log List

No.	Event	Time	Result
1	Remote Login	2010/06/09 19:10:40	admin
2	Remote Login	2010/06/09 19:08:24	admin
3	Remote Login	2010/06/09 19:07:09	admin
4	Remote Login	2010/06/09 19:02:50	admin
5	Remote Login	2010/06/09 18:52:43	admin
6	Remote Login	2010/06/09 18:49:10	admin
7	Remote Login	2010/06/09 18:47:32	admin
8	Remote Login	2010/06/09 18:42:53	admin
9	Remote Login	2010/06/09 18:42:08	guest
10	Remote Login	2010/06/09 18:41:35	guest
11	Remote Login	2010/06/09 18:38:10	admin
12	Remote Login	2010/06/09 18:35:53	admin
13	Remote Login	2010/06/09 18:29:27	admin
14	Remote Login	2010/06/09 18:11:39	admin
15	Remote Login	2010/06/09 18:06:14	admin
16	Remote Login	2010/06/09 17:55:06	admin
17	Remote Login	2010/06/09 17:47:51	admin
18	Remote Login	2010/06/09 17:44:53	guest
19	Remote Login	2010/06/09 17:42:45	admin
20	Remote Login	2010/06/09 17:38:22	admin

← Prev. Page   → Next Page   Reload   Clean All

4.5.3 Online

You can check the current online user(s) with respective online information. To refresh the list, click "Reload".

➢ To allow anonymous login, select "Enable" in "Anonymous Viewer Login".
➢ To disable image code verification at login, select "No" in "Login with CAPTCHA Image".

4.5.4 Account

You can create a new account with different user access privilege, or delete or modify an existing account setting.

How to create a new account

Step1: Click "New", and fill in the following columns.

Column	Description
User Name	Set a user name that will be used for camera access. The user name allows up to 16 alphanumeric characters.
Password	Set the password that will be used for remote login. The password allows up to 16 alphanumeric characters.
Confirm Password	Enter the password again to confirm.
User Level	Set the security level of an account to give the permission to control different functions. There are four user levels: SUPERVISOR, POWER USER, NORMAL USER and GUEST.
Life Time	Select how long this account is allowed to stay online (1 MIN / 5 MIN / 10 MIN / 1 HOUR / 1 DAY / INFINITE)

Step2: Then, click "Save" to save your setting and create a new account.

<u>How to modify or delete an existing account</u>

Step1: Select the account you want to modify or delete.

Step2: To modify the account, click "Edit" to change the settings, and click "Save".
To remove the account, click "Delete".

Note: It's not allowed to remove an account when there's only one account in the account list.

4.5.5 Trigger

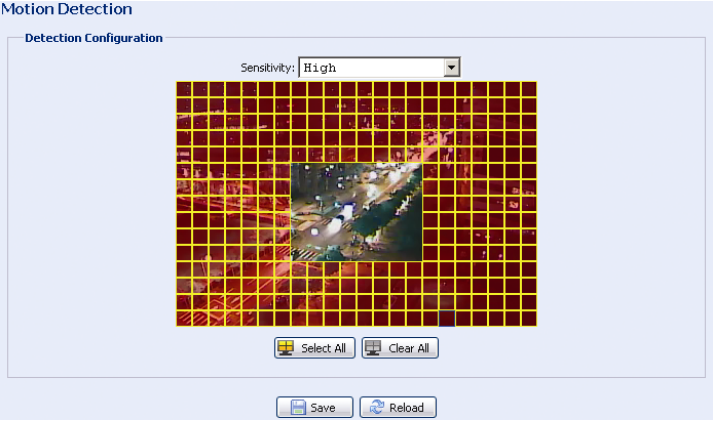You can set the motion detection and select the notification function.

◆ Trigger Setting

In this section, you can select to enable or disable motion detection.

Item	Description
Motion	Select to enable or disable the motion detection function.
	· Motion Detection Area Setting
	When "Enable" is selected, click "Detection" to enter the motion detection area setting page as follows:
	Level of Sensitivity:
	Set the detection sensitivity from High / Normal / Low.
	Area Setting:
	Set the motion detection area by selecting the area grids with your mouse. Pink grids represent the area that is not being detected while the transparent grids are the area under detection. You can set multiple areas under detection.
	Click "Clear All" to set the whole area undetected.
	Click "Select All" to set the whole area under detection.
Trigger Duration	Set the duration time for trigger recording (5 / 10 / 20 / 40 seconds).

◆ Notification Setting

In this section, you can select to enable e-mail and/or FTP notification when a motion event happens.

Item	Description
Method	• **Email** When this option is checked, the network camera will upload the captured video clip to the assigned e-mail address(s) once motion recording happened. • **FTP** When this option is checked, the network camera will upload the captured video clip to the specified FTP site once motion recording happened. • **SMS** When this option is checked, the network camera will send a text message to the specified mobile phone number once a motion detection event occurs. For details, please refer to "4.3.7 SMS" at page 18.
Trigger Duration	Set the duration when a motion detection event occurs (5 / 10 / 20 / 40 seconds).
Record Time	Set the record time of the notification video clip (1 ~ 5 seconds).

4.5.6 Video

Set the image resolution, quality and frame rate.

| Item	Description
JPEG / MPEG / H264	Select the image resolution and quality. Image Resolution: CIF / 4CIF Image Quality: BEST / HIGH / NORMAL / LOW
Frame Rate	The frame rate allowed to each viewer can be adjusted to adapt to the bandwidth on the network. Set the desired image frequency to the maximum (FULL) or to a specified frame rate (1/2; 1/3; 1/4; 1/5; 1/10; 1/15; 1/20; 1/25; 1/30). The actual frame rate depends on the actual network connection, and may be lower than the specified one.

4.5.7 Google Maps

This function is used to let you know where the network camera is.

The system will prompt you to apply a Goole Maps Key if your access is denied. Please follow the instructions below when you're denied:

Step1: Click "Sign up for a Google Maps key" to enter the application page.

Step2: Check the terms and conditions, and enter the IP address of the network camera. Then, click "Generate API Key".

Step3: Copy the generated API key, and click "Update Google Maps Key" on the web browser to paste it.
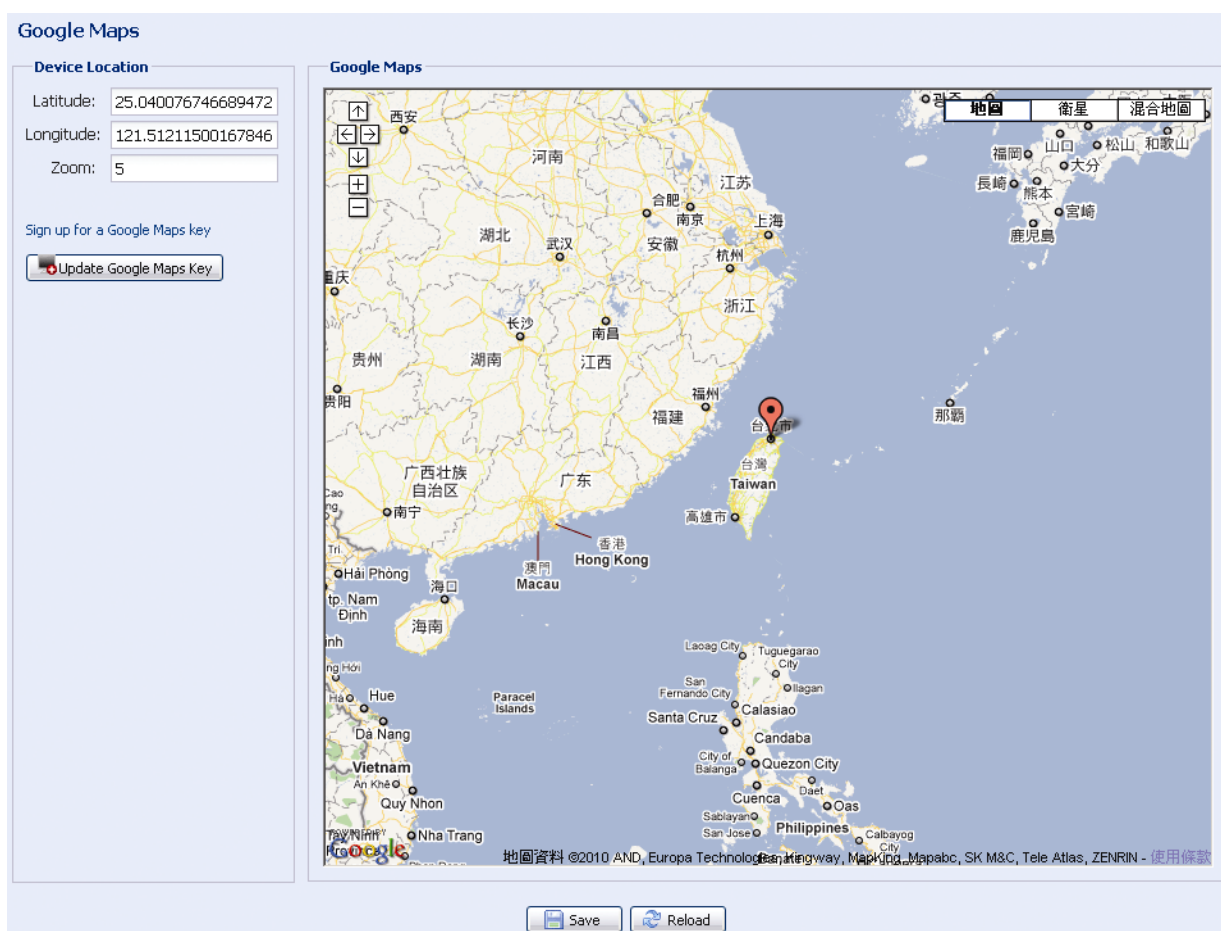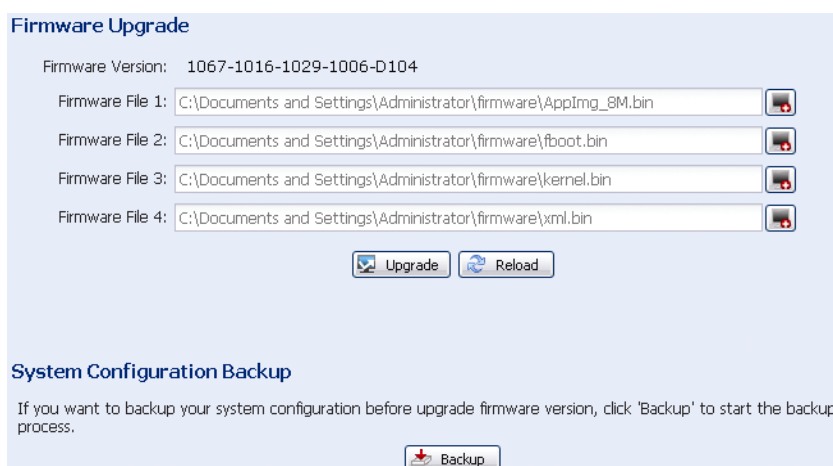
4.5.8 Upgrade

This function is used when users need to upgrade the network camera for function scalability.

Note: Before using this function, make sure you have the correct upgrade files provided by your installer or distributor.

Step1: Click " ![icon] " to browse to where you save the upgrade files, and select them one by one until all files are selected (up to four files).

Step2: To make a system backup for restore all camera configurations later, click "Backup".

Step3: Click "Upgrade" to start system upgrading.

Note: It takes a few minutes to finish the upgrade process. Do not disconnect the power during firmware upgrade, or the upgrade may be failed. The camera will reboot after the upgrade.

APPENDIX 1 PRODUCT SPECIFICATIONS

	AVN284	AVN284V	AVN285
■ **Network**			
Compression	H.264 / MPEG4 / MJPEG		
LAN Port	YES		
LAN Speed	10/100 Based-T Ethernet		
Supported Protocols	DDNS, PPPoE, DHCP, NTP, SNTP, TCP/IP, ICMP, SMTP, FTP, HTTP, RTP, RTSP, RTCP, IPv4, Bonjour, UPnP, DNS, UDP		
ONVIF Compatible	NO	YES	NO
Frame Rate	NTSC:30, PAL:25		
Number of Online Users	10		
Security	Multiple user access levels with password / IP address filtering		
Web management	(1) Web browsers, such as Internet Explorer, Mozilla Firefox, Google Chrome, Safari & Opera for single device access, or (2) Free CMS software, Video Viewer, for up to 16 network cameras control simultaneously		
■ **Camera**			
Image Sensor	1/4" Sony Color Super HAD CCD		
Pixels	768(H) x 494(V) <NTSC> / 752(H) x 582(V)) <PAL>		
Resolution	High Resolution		
Lens	f3.9 ~ 85.9mm		f3.43 ~ 120mm
F-number	F1.6 (Wide) ~ 3.7 (Tele)		F1.6 (Wide) ~ 4.5 (Tele)
Viewing Angle	4° ~ 60°		2.2° ~ 75.2°
Pan Range	360°		
Tilt Range	90°		
Max. Pan / Tilt Speed	Pan 360º/s, Tilt 90º/s		
Zoom	22X Optical Zoom		35X Optical Zoom
Max Zoom Speed	Approx. 7s (Tele ~ Wide)		Approx. 10s (Tele ~ Wide)
Shutter Speed	1 / 60 (1/50) to 1 / 100,000 sec.		
Min Illumination	0.3 Lux / F1.6		
BLC	On / Off		
Color Adjustment	Brightness, Contrast, Saturation and Hue		
Preset Points	Up to 16 preset points can be set		
Sequence Groups	1. Up to four groups can be set 2. One group can include up to 16 preset points		
S/N Ratio	More than 48dB (AGC off)		
White Balance	Auto / Indoor 1 / Indoor 2 / Sun / Cloudy * Indoor1 = 9000K; Indoor2 = 3000K; Sun = 5500K; Cloudy = 7000K		
IP Rating	IP67		
Power Source (±10%)	DC12V, 3A (Max)		
Operating Temperature	-20°C ~ 50°C (-4°F ~ 122 °F) Fan: 40°C on, 30°C off Heater: 5°C on, 15°C off		
Humidity	85%		
Dimensions (mm)**	323(W) x 339(H) (bracket included)		
■ **Others**			
Mobile Surveillance	iPad, iPod, iPhone, BlackBerry, Windows Mobile, Symbian & Android		
Motion Detection	YES		
Event Notification	FTP / Email / SMS		
Minimum Web Browsing Requirements	● Pentium 4 CPU 1.3 GHz or higher, or equivalent AMD ● 256 MB RAM ● AGP graphics card, Direct Draw, 32MB RAM ● Windows 7, Vista & XP, DirectX 9.0 or later ● Internet Explorer 7.x or later		

** The specifications are subject to change without notice.
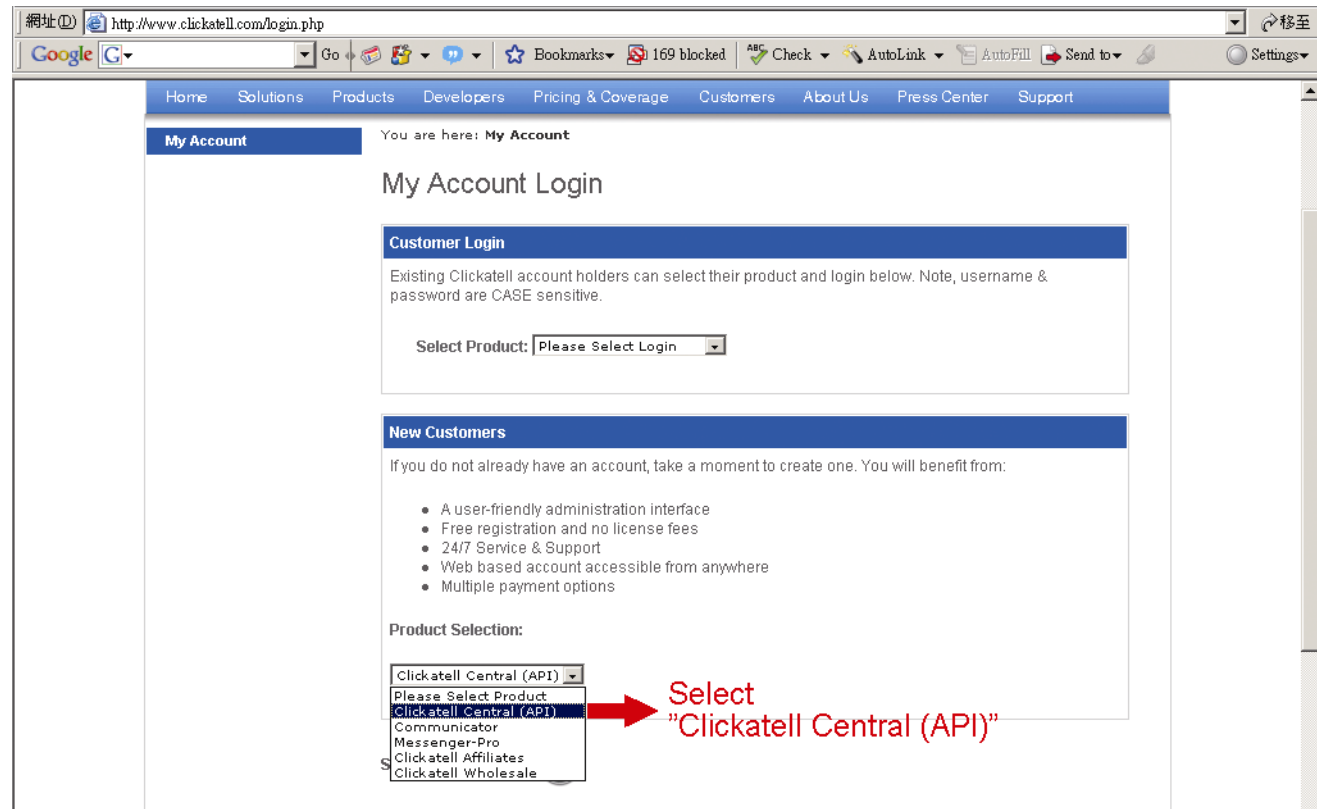
** Dimensional tolerance: ± 5mm

APPENDIX 2 API ID APPLICATION FOR SMS MESSAGING

To allow the camera automatically sending a text message when an event happens, you need to apply an API ID from Clickatell, one mobile messaging company, first.

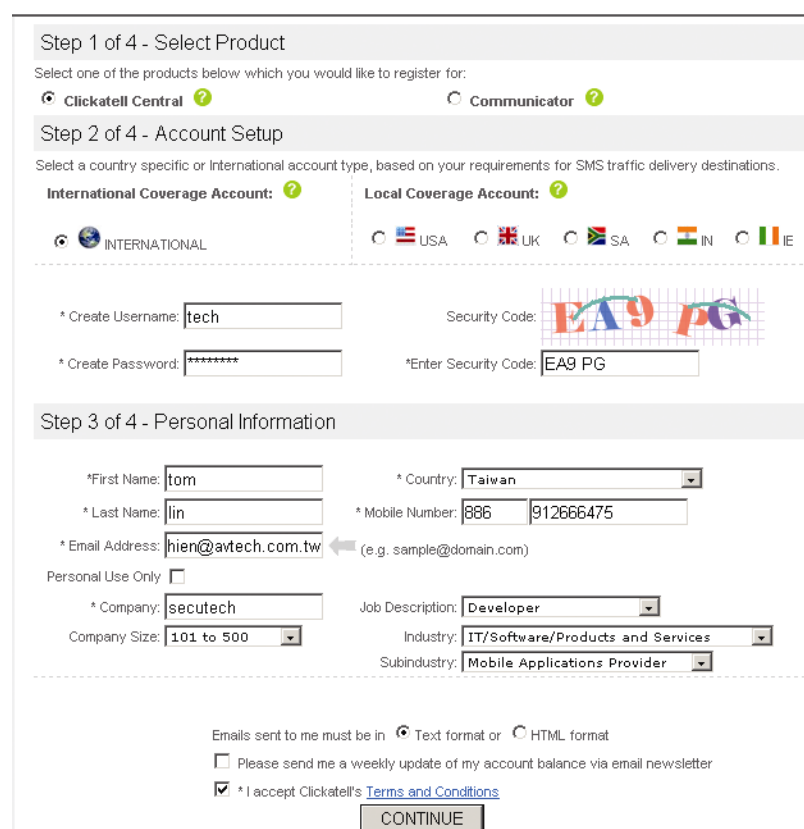**Note:** The SMS messaging is not totally free. You will be charged starting from the 11th message.

Please follow the steps below for application.

Step1: Go to http://www.clickatell.com/login.php. In "New Customers", select "Clickatell Central (API)" from the drop-down list.

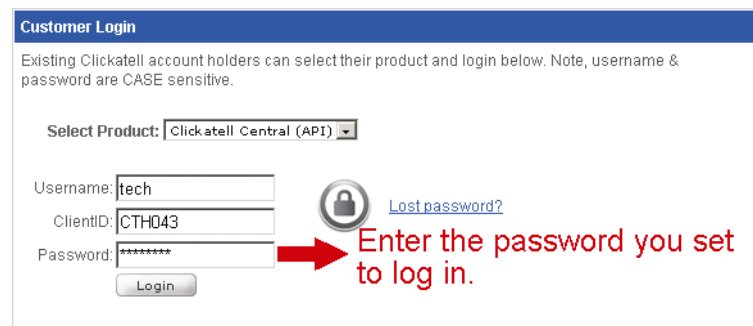Step2: Fill in your information to create an account, and click "CONTINUE".

Note: Note down the user name and password, and the mobile phone number you specified here for SMS notification setting later.

Step2: When the account is created, the system will automatically send an Email to your specified Email address and ask you to activate your account.

Click the link in the Email to complete account activation, and enter the login page as follows. Enter the password you set, and click "Login".
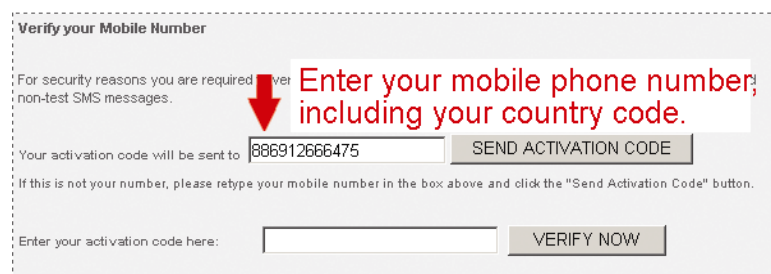

Step3: Enter the mobile phone number (including your country code) you want the text message to be sent, and click "SEND ACTIVATION CODE". The system will send an activation code to that number for verification.

Check if you receive a text message from Clickatell.

Step4: Go back to Clickatell, and click the tab "Manage my Products".
Then, select "HTTP" from the drop-down list "My Connections".

Step5: In "Add HTTP API", enter a descriptive name for this service, and make sure the dial prefix is correct and callback type is "HTTP GET". Then, click "Submit".
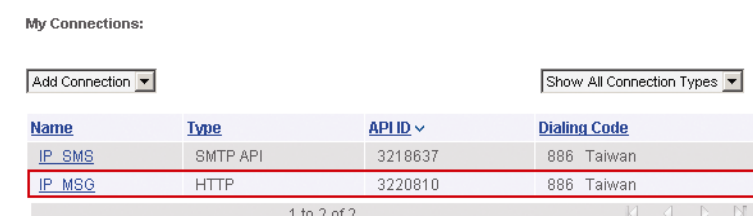
Step5: You will get an API ID as follows.

Note: Note down the API ID for SMS notification setting later.

APPENDIX 3 BIT RATE TABLE FOR REFERENCE

The data below is for reference only.

The bit rates listed here may vary depending on the resolution, image quality & frame rate you choose, the complexity of your monitoring area, and how often the moving objects show in your monitoring area.

Testing Environment

- Place: Office Entrance
- Network translation: H.264

Static: No one coming in and out

Dynamic: One or two people coming in and out

Resolution	Quality	Frame Rate	(Dynamic) kbps	(Static) kbps
4CIF	Best	FULL	2786	1546
	High		1375	705
	Normal		1234	425
	Basic		441	245
CIF	Best		955	290
	High		364	171
	Normal		328	111
	Basic		161	68
4CIF	Best	1/5	935	474
	High		506	272
	Normal		297	175
	Basic		223	108
CIF	Best		222	109
	High		133	67
	Normal		81	49
	Basic		71	32
4CIF	Best	1/30	127	70
	High		197	20
	Normal		61	11
	Basic		50	4
CIF	Best		42	7
	High		38	2
	Normal		22	1
	Basic		28	0